

MEMORANDUM FOR: Deputy Director/Intelligence

THROUGH: Assistant Director, Research and Reports Noted By AD/RR

SUBJECT: Foreign Study and Travel - TDY - Zurich and Bern, Switzerland; Milan and Novara, Italy; Vienna, Austria; Remagen, Germany; London, England.

1. Purpose of Trip

a. Attend First International Cartography Course, Part I; Zurich, 25 March - 19 April.

b. Attend First International Cartography Course, Part II, Bern, 22 April - 18 May.

c. Survey selected official and commercial mapping establishments in Italy, Austria, Germany, and England.

2. Activities

a. First International Cartography Course, Part I, Zurich, 25 March to 18 April, 1957. This phase of the course was conducted by Prof. Dr. Ed. Imhof, Chief of the Kartographisches Institut, Eidg. Technische Hochschule. There were 21 participants from 11 countries (including 2 from Poland and 1 from E. Germany). Most of the participants, like myself, were experienced in some phase of map production and had supervisory responsibilities. All sessions were held at the Eidg. Technische Hochschule. The daily 9AM-5PM schedule consisted of 2 hours of lectures and a round-table discussion each morning and 3-hour workshop period in the afternoon.

The lectures consisted of a systematic review of the growth of cartography to the present, presentation of general and specialized theories for both large and small scale mapping, review of current trends in terrain and relief representation, theory of thematic (topical, special-subject) maps, and the planning of atlases. The daily discussion period was devoted to questions on the subject matter presented in the lectures. The lectures were given in German, with simultaneous translation in English and French. The lecture translator also was present at the discussions and during the workshop period. The afternoon workshop periods were devoted to exercises in current Swiss relief-shading techniques.

Professor Imhof is recognized in Europe as the only expert in systematic and theoretical cartography. Being also a skilled cartographer and an artist, he was able to present a course of study not duplicable anywhere. The maturity of the participants permitted him to conduct the course at a graduate-school level, thus giving all participants a unique intellectual sabbatical from everyday production pressures.

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SUBJECT: Foreign Travel - [REDACTED]

Two elements stood out in the general review of cartography: The current importance of relief representation and the tremendous growth in demand for thematic maps. Both of these elements were observed at the establishments visited on the post-course itinerary, and both elements were largely responsible for the offering of this First International Cartography Course at this time. Nearly all participants came to the course to find solutions to the problems posed by these elements. Traditional methods of relief presentation are largely inadequate and expensive, and the consensus of the participants on the Swiss relief-shading techniques was such that the next few years should see a great expansion in their application. The demand for thematic maps has resulted from the advances made in photogrammetry, as a result of which there is more mappable information available than can be included on the traditional topographic sheet. Moreover, there is a great demand and need for this information from every conceivable quarter: Schools, governments, private industry, publishers, etc.

In the course, stress was placed on the generally neglected area of map design for thematic maps and the general absence of research and of literature on this topic. There is no question that Prof. Imhof has done more systematic experimentation in this field than any other cartographic specialist.

A final observation is the inter-relatedness of cartography to recent technical revolutions in air photography and in cartographic materials. Every cartographer in Europe is struggling with these recent developments and is interested in how other cartographers are faring with these same problems. No one yet has found all of the solutions for these technical problems, but the course served to help define these problems and to point to ways to their solution.

b. First International Cartography Course, Part II, Bern, 23 April to 17 May 1957. This part of the course was held at the Swiss Eidgenossenschaft (Federal Topographic Survey) at Wabern/Bern. The participants were separated into working pairs for practical instruction in glass engraving, relief shading, and rock rendering. The daily 9AM-5PM schedule was devoted to learning the Survey production techniques: Glass engraving with Herr Kochlin, relief shading with Herr Witzler, rock rendering with Herr Ulmer. Interspersed throughout the 4 weeks were lectures on map lettering (Prof. Imhof), photomechanical lettering techniques (Herr Buhler), reproduction (Dr. Chervet), and Survey organization (Dr. Bertschmann, Director of the Survey). Also included were visits to the local cadastral office, the Haag-Streit Instrument Company, the commercial map publishers, Kummerly & Frey, and the Alpine Museum (which contains displays on the history of Swiss mapping).

Part II of the course was a unique opportunity for studying topographic map production methods at what is recognized as the finest topographic mapping institution in Europe. Not only has the Survey perfected glass-engraving, but it has carried to its fullest expression on topographic maps the Imhof theories on relief shading. In addition,

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SUBJECT: Foreign Travel - [REDACTED]

since the Survey was completely reorganized only in 1953, this was an opportunity to study the management practices of a top-caliber European-style institution operating at peak efficiency. The basic elements of good management, as outlined in Agency management courses, were apparent, but in a more rigorous form than would be acceptable in the U.S.A. A highly integrated operation (from the field phases of air photography and photogrammetry, through the departmental phases of map construction and reproduction) was closely controlled from the Director's office through what appeared to be very modern cost accounting and production controls. At the production levels all personnel seemed to understand their role in the operation and produced high quality work with little supervision. Though working conditions would strike the average American as being overly rigorous, each worker had the best in working quarters, equipment, and tools. Further, the pay scales and fringe benefits were significantly better in this government establishment than in private business, and morale was high.

c. Organisations of cartographic interest visited on TDY. Fifteen formal visits were made on this TDY; eight were to commercial establishments and seven to official government establishments. Included in this listing are a brief description of the establishments and the names of persons with whom contacts were made. Detailed findings and comments on each establishment are included in the appendix attached to this trip report.

1. Orell-Puselli,
Zurich, Switzerland
- General Publisher, which also publishes Prof. Imhof's Swiss school atlases and wall maps.
Mr. Stussi, Chief, Cartography
2. (Swiss) Landesvermessungs-
Director (Cadastral
Directorate),
Bern, Switzerland
- The federal agency coordinating cantonal topographic and cadastral surveying.
Mr. Harry, Director
3. Kummerly & Frey,
Bern, Switzerland
- General map publishers
Mr. Max Frey, Business Manager
4. Touring Club Italiano,
Milan, Italy
- Specialized cartographic and geographic publishers.
Sr. Giuseppe Vota, General Secretary
Sr. M. Castiglioni, Chief Editing
Sr. M. Pasquetti, Chief, Drafting

25X1A9a

SUBJECT: Foreign Travel - [REDACTED]

5. Istituto Geografico de Agostini,
Novara, Italy - General commercial-art and specialized cartographic publishers.

Dott. Luigi Visintin, Scientific Director
6. Freytag & Berndt,
Vienna, Austria - General map publishers, largest in Austria.

Dr. Fritz Aurada, Chief, Cartography
7. Bundesanstalt fur Landeskunde,
Remagen, Germany - Federal cartographic, geographic and statistical agency.

Dr. Emil Meynen, Chief
8. Directorate of Military Survey,
Tolworth, England - Military-topographical mapping institution.

Mr. H. A. G. Lewis
9. Mapping Office of the Ministry of Housing and Local Government,
London, England - Government cartographic and geographic organization supporting land-planning activities.

Dr. E. C. Willats
10. Bracknell Development Corp.,
Bracknell, England - Independent government corporation managing the development of the "new town" of Bracknell for the Ministry of Public Housing.

Mr. Reinald, Assistant Manager
11. Clarendon Press,
Oxford University,
Oxford, England - Cartographic publishers to Oxford University

Mr. David Bickmore, Secretary
Mr. Stanley Knight, Technical Director
12. Huntings Aerosurveys, Ltd.,
London, England - Commercial air-surveying and photogrammetric company.

Mr. P. C. Mott, Survey Manager
13. George Philip & Son,
London, England - General map publishers and globe-makers.

Mr. George Goodall

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SUBJECT: Foreign Travel - [REDACTED]

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3. Difficulties

a. Arriving in Zurich the afternoon before the start of the course allowed no time to get settled for a 2-months' stay. Future travellers should always arrive several days in advance of the start of an extended TDY.

b. The total freedom permitted by travel arrangements was gratifying, but there were no effective arrangements for emergencies

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4. Commitments

a. Istituto Geografico de Agostini, Novara, Italy:

(1) To forward the latest unclassified map of the administrative divisions of Communist China.

(2) To forward samples of D/GC and Swiss plastic shading.

(3) To furnish information on the problem of getting uniform exposure with contact screens at sizes up to 28 x 40 inches.

(4) To forward a copy of the D/GC materials catalog.

b. Touring Club Italiano:

(1) To forward detailed information on our method of wax coating of stripping-film lettering, with the names of European suppliers, if possible. Particularly do they need a more durable stripping-film than they now use.

(2) To forward a copy of the D/GC materials catalog.

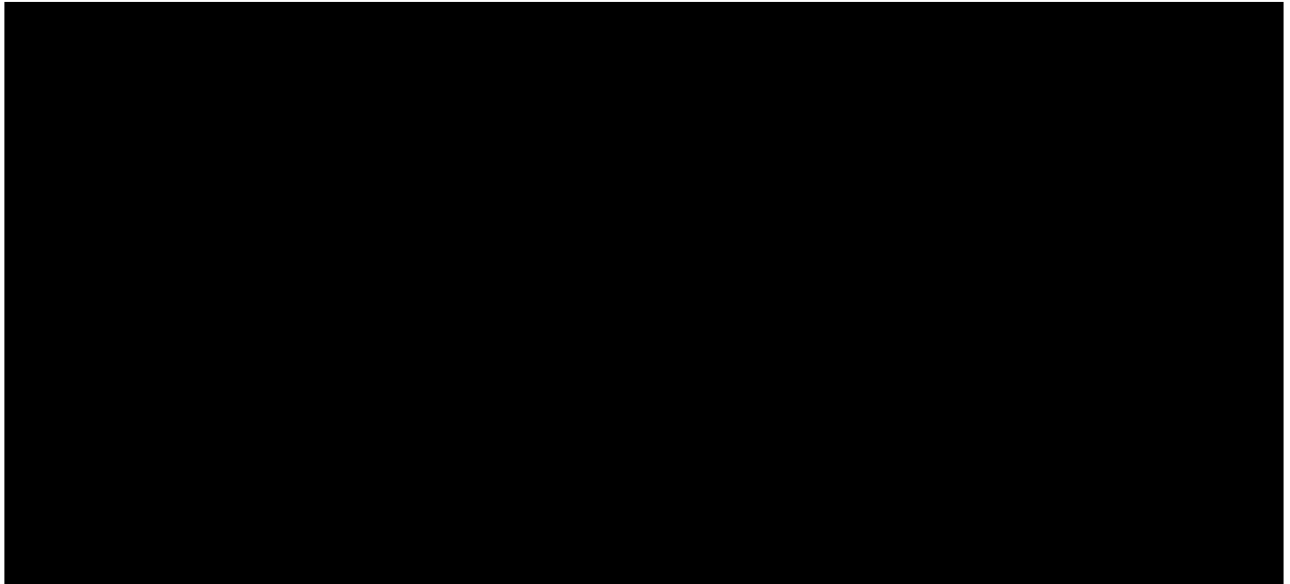
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SUBJECT: Foreign Travel - [REDACTED]

c. Copies of the D/GC materials catalog to the following:

- (1) Freytag & Berndt, Vienna, Austria
- (2) Clarendon Press, Oxford, England
- (3) Kummerly & Frey, Bern, Switzerland

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5. Recommendations

a. This officer should be given time to rewrite sections of the course lectures, complete with illustrations, for permanent filing in the Division. Included are enough items and ideas of general interest to warrant full circulation within the Division.

b. A section of the lectures dealing with placement of names and symbols is so applicable to current operations that this section should be rewritten in the form of a manual of standard procedures. This officer should be assigned to do this.

c. The Agency should send a cartographer, preferably of supervisory grade, to the course each time it is offered; Prof. Imhof is 62 years old and no successor is in sight. The next candidate should be chosen no less than 6 months before the next course begins to prepare himself not only for the course but for the post-course itinerary to cartographic installations. The single most important item for preparation is conversational German. Though simultaneous translation will be available again, it was found that the translator could not always manage the vocabulary of graduate-level geography and cartography and that a familiarity with German is just helpful enough to enable the student to

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SUBJECT: Foreign Travel - [REDACTED]

Follow the lectures over these rough parts. An experienced supervisory-grade cartographer is suggested because his experience will help him over the translation barrier mentioned and also, since the course is largely theoretical, it would be of more value to a person with presumably more education, background, and experience. It is no course for a neophyte.

d. Although this did not occur this time, it can be foreseen that sometime in the future, too many visits to the same cartographic establishments can wear out hospitality. Each succeeding student should plan an overall different itinerary, except where it is clear that more visiting would be welcome. Mr. Hodgson indicated that [REDACTED]

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[REDACTED] was much imposed on by military intelligence visitors and that his welcome to Americans was wearing thin. Further, there should be some potential exchange involved in each visit as a token gesture in return for hospitality given. Having the outline of the course lectures with me to show to my hosts saved me potential embarrassment on this score. 25X1A5a1

e. The Division has been gradually increasing the technical responsibilities of OC/C and reducing these responsibilities in the compilation area, to permit more emphasis on research within the compilation area. After observing some smoothly operating European establishments in terms of division of responsibilities, this officer feels that this trend is good and should be deliberately accelerated. The recent reclassification within the Division makes this almost mandatory.

f. The role of good management in the European establishments which most impressed this officer was very perceptible. The Division supervisory staff should conscientiously review performance standards, in view of the recent reclassification, particularly in regard to making promotion policy a dominant management tool in the Division.

g. External contracting. The recent contract to the [REDACTED] 25X1A5a1 [REDACTED] for the production of a 1:5,000,000 set of base maps covering Eurasia is a sound move. The Division is not geared to efficiently produce such maps as are covered by this contract. This officer was impressed with the potential of the cartographic sections of both the [REDACTED] 25X1A5a1

[REDACTED] for this kind of work. These two organizations should be kept in mind for similar projects in the future.

h. The spirit in which this officer undertook his TDY was in the nature of an intellectual sabbatical from 15 continuous years of intelligence production. In the long run, this may be the most valuable aspect of his TDY. There is as much need for intellectual refreshment for individuals with long experience in responsibility as there is for

SUBJECT: Foreign Travel - [REDACTED]

training designed simply to improve an individual's working competence. Serious consideration should be given to allowing more persons with 15 years or so of continuous service the benefit of an experience such as was enjoyed by this officer.

i. The Astrafoil dye process, sold by the DEB Corp., London, as well as all domestic equivalents, should be seriously investigated by the Division. This method for making contact positives and color proofs without a camera or darkroom is extensively used in Europe and demonstrations of the process were impressive in their simplicity and versatility. This process holds promise as a high-quality solution to the problems encountered in making separation plates for NIS base maps and as a direct proofing process, not requiring the use of negatives.

j. All U. S. Agency and State Department foreign posts are handicapped by lack of a useable international reference atlas. Most available atlases have; either an unbalanced coverage in favor of the producing nation or have place-names in a form which is more confusing than useful for the average foreign officer. In this officer's opinion, the atlas in answer to this problem is the 1957 edition of the "Atlante Internazionale", published by Touring Club Italiano. Features which justify consideration are:

- (1) Best-balanced coverage available in a reference atlas.
- (2) Currentness. With the one exception of one country, the revised edition conforms to the current U. S. policy on the treatment of place-names. Political-administrative data are current.
- (3) Loose-leaf format. This atlas is available in a sturdy loose-leaf format for easy interchangeability of sheets and for substitution of revised plates.
- (4) Cost. TCI indicated a willingness to talk price for quantity purchase of the currently priced \$70 volumes. This is a good price for this quality atlas and by far the cheapest solution to what must be a vexing problem in U. S. foreign posts.
- (5) Comparison with other atlases. The closest competitor for consideration is the new "Times Atlas", published by Bartholomew's of England. Eventually this atlas will total five volumes. Only one volume is now available. For any specific area, the Times Atlas is probably superior to the Atlante Internazionale, but as a single-volume general reference atlas the latter is unquestionably superior.

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Chief, USSR-Satellites Compilation Branch
Cartography Division, ORR

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at suggestion of SA/RR